introducing a strongly resorbable, synthetic poorly crystalline apatitic (PCA) calcium phosphate at the implant site, the PCA calcium phosphate have a calcium to phosphate ratio (Ca:P) in the range of 1.2-1.68 and characterized by an X-ray diffraction pattern similar to naturally occurring bone and substantially as shown in Figure 3c, whereby the implanted PCA calcium phosphate is resorbed with a resorption rate characterized in that, when placed in a rat intramuscular site, at least 1 g of the PCA calcium phosphate is at least 80% resorbed within one year, and bone is formed at the implant site.

2. (Four times amended) A method for treating a bone defect, comprising:

identifying a bone site suitable for receiving an implant;

introducing a [hydrated precursor] paste at the implant site, the [hydrated precursor] paste comprising an amorphous calcium phosphate, [and a promoter] an acidic second calcium phosphate and a physiologically acceptable fluid of an amount to provide a paste of formable or injectable consistency; and

hardening the [hydrated precursor] paste *in vivo* at the implant site wherein the hardening process is associated with an endothermic reaction, whereby bone is formed at the implant site.

4. Cancelled.

5. (Amended) The method of claim [3 or 4, characterized in that,] 2, wherein said paste is injectable for a time greater than about 10 minutes at about 25°C, hardens

within about 10 to 60 minutes at about 37°C.

6. Cancelled.

21. Cancelled.

22. (Amended) The method of claim 2, wherein the [promoter is participatory] acidic calcium phosphate has a pH of 5-7.

23. (Amended) The method of claim [21] 2, wherein the [participatory promoter] acidic second calcium phosphate is selected from the group consisting of [basic calcium phosphates, acidic calcium phosphates, crystalline hydroxyapatite, phosphate salts and calcium salts] calcium metaphosphate, dicalcium phosphate dihydrate, heptacalcium decaphosphate, tricalcium phosphate, calcium pyrophosphate dihydrate, crystalline hydroxyapatite, calcium pyrophosphate, monetite, octacalcium phosphate, and PCA calcium phosphate.

24. Cancelled.

25. (Twice amended) A method for embedding a prosthetic device, comprising:

introducing a prosthesis at an implant site;

applying a [hydrated precursor] paste to a surface of the prosthesis, the [hydrated precursor] paste comprising an amorphous calcium phosphate and [a promoter] an acidic second calcium phosphate and a physiologically acceptable fluid of an amount sufficient to provide a paste of formable or injectable consistency, whereby the [hydrated precursor]

paste is converted at the implant site to a hardened calcium phosphate product [wherein the] in a hardening process [is] associated with an endothermic reaction; and

allowing the hardened calcium phosphate [is] to be resorbed and replaced thereby with bone.

26. (Twice amended) A kit for preparing an embedded prosthetic device, comprising:

a prosthesis [locatable at a bone site]; [and]

a [strongly resorbable, synthetic poorly crystalline apatitic calcium apatite in the form of a] powder[, paste or putty in surface contact with the prosthesis at the bone site, the poorly crystalline apatitic calcium (PCA) phosphate, characterized in that an implanted PCA calcium phosphate is resorbed with a resorption rate characterized in that, when placed in a rat intramuscular site, at least 1 g of the PCA calcium phosphate is at least 80% resorbed within one year] comprising an amorphous calcium phosphate and an acidic second calcium phosphate; and

a physiologically acceptable fluid.